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TITLE: ENERGY RECOVERY DEVICE FOR REDUCTION OF VEHICLE SPEED
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INVENTOR-INFORMATION:

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US-CL-CURRENT: 180/165

ABSTRACT:

PURPOSE: To enable a vehicle to be smoothly started and accelerated by configuring a device in such a way that, when the vehicle is started and accelerated, not only the engagement and/or disengagement of a clutch but also the engagement of the plural number of synchronizers in a multi-step transmission type PTO output device are controlled, and simultaneously the swash plate tilt angle of a variable displacement pump-motor is also controlled.

CONSTITUTION: A multi-step transmission type PTO output device 3' which is composed of PTO gears 6 and 10 and of synchronizers 9 and 11 and the like, all of which are loosely engaged with the output side of both a main shaft 4 and a counter shaft 5, is integrally provided for a transmission 3 which is connected with the putout shaft of an engine 1 by way of a clutch 2. And a variable displacement pump-motor 16 is connected with a PTO output shaft 8 of the device 3'. Then an accumulator 41 is connected with a high pressure hydraulic circuit 40 of the pump-motor, and an air pressure oil tank 43 is connected with its low pressure hydraulic circuit 42. And the device is controlled by an ECU in such a way that, when the vehicle is accelerated from example, both the clutch 2 and the synchronizer 9 are engaged, and

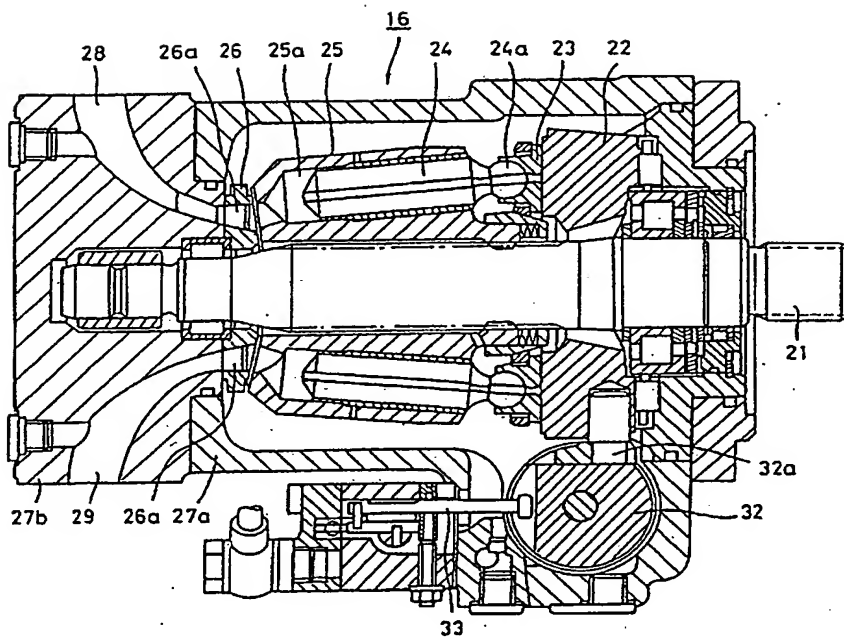
simultaneously the swash plate tilt angle of the pump-motor 16 is set at the value which corresponds to the change of an accelerator pedal.

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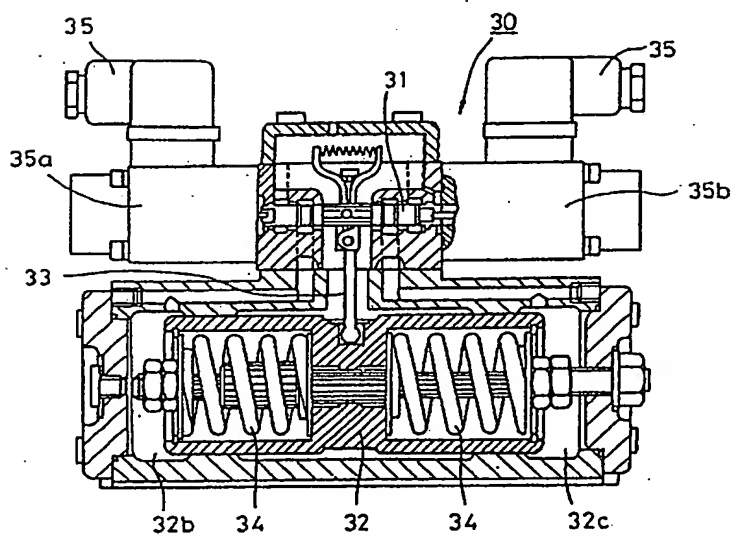
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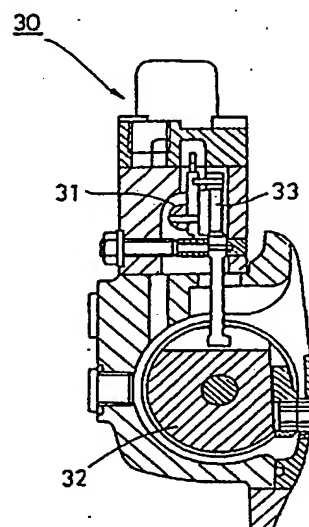
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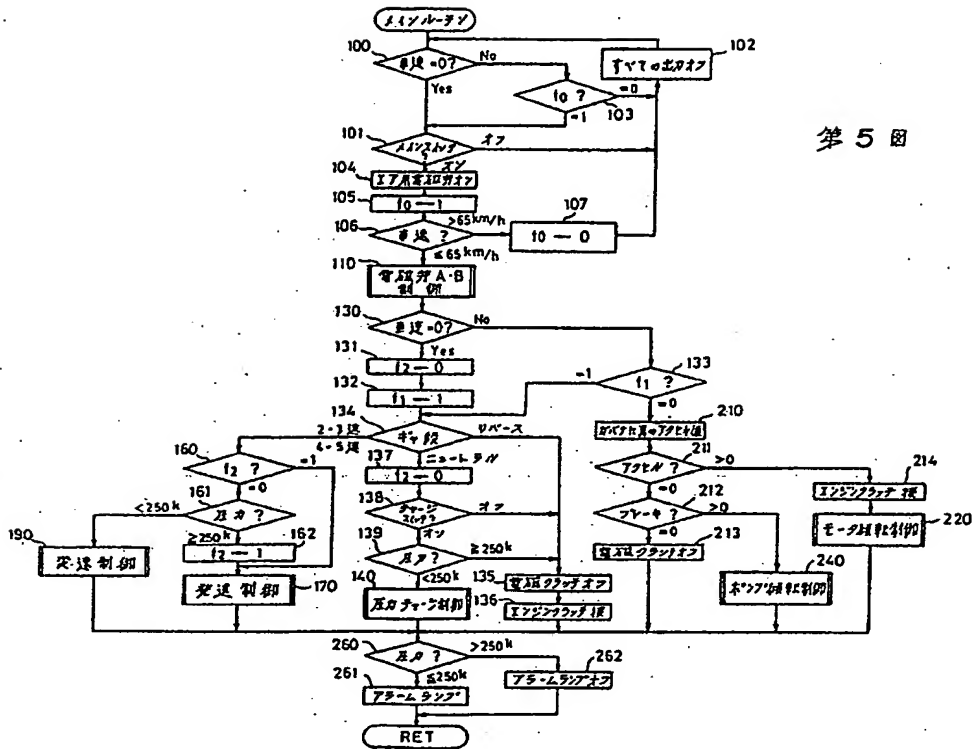
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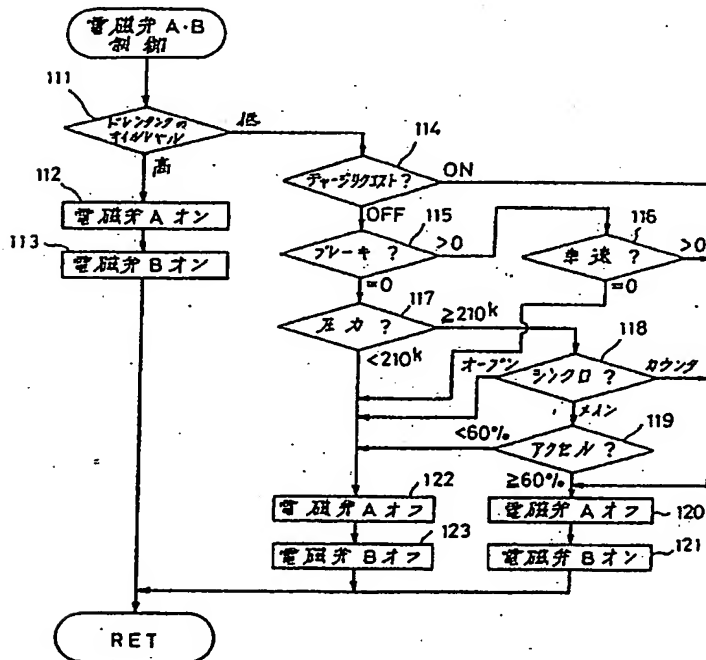
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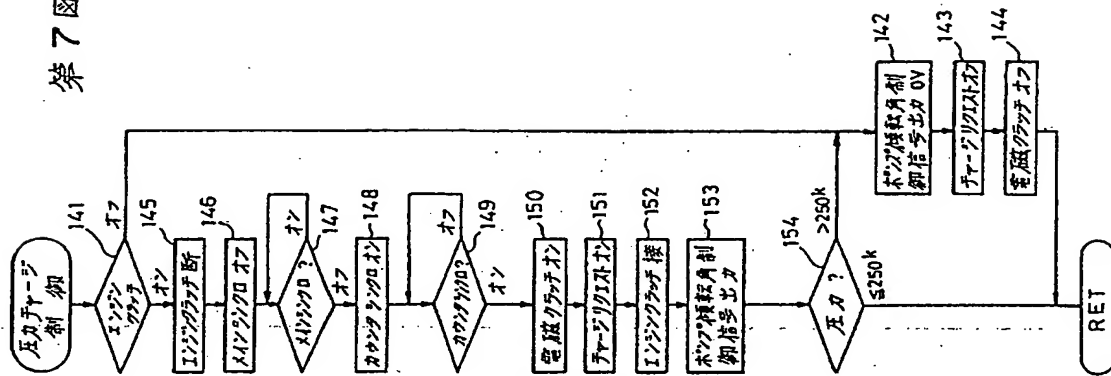
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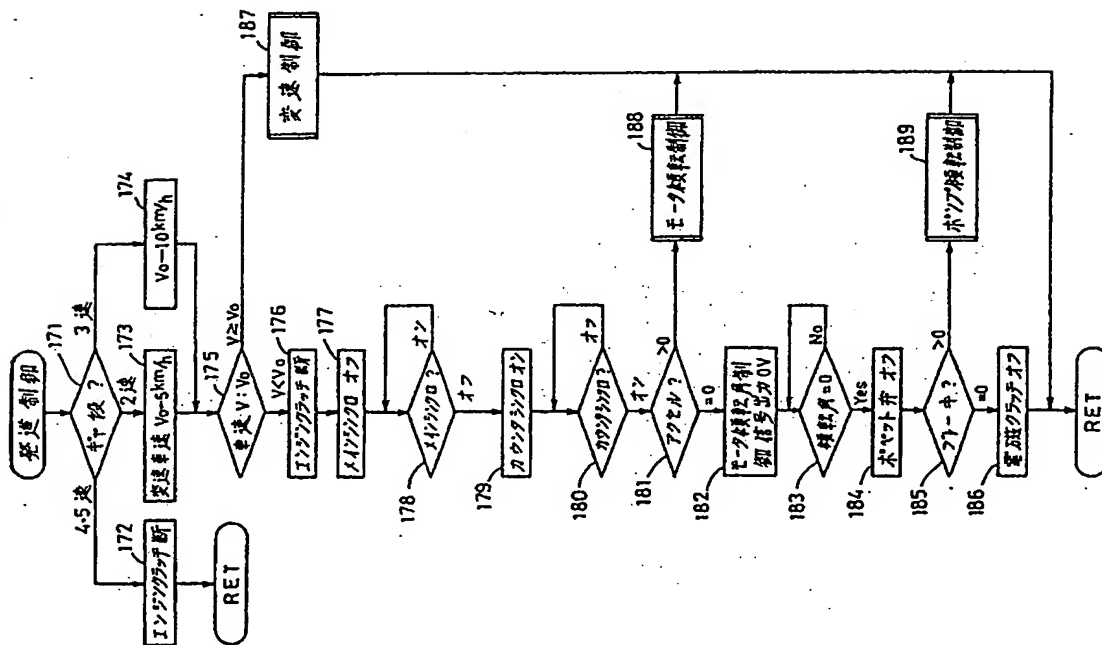
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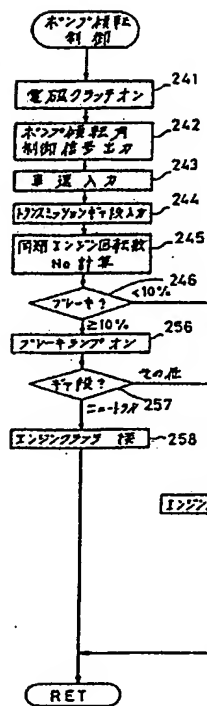
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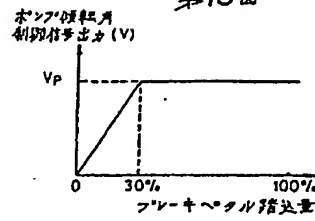
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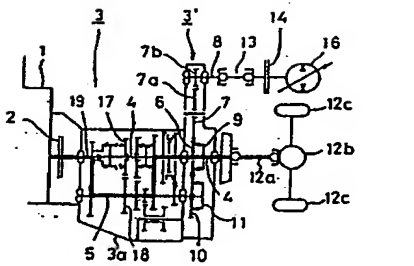
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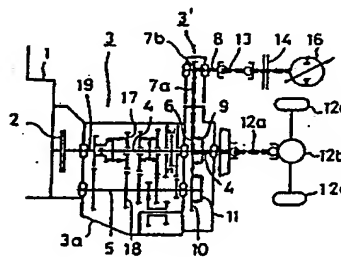
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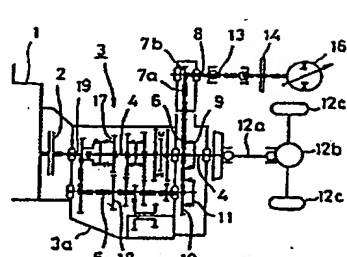
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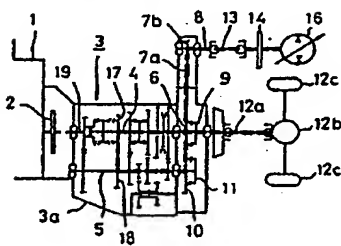
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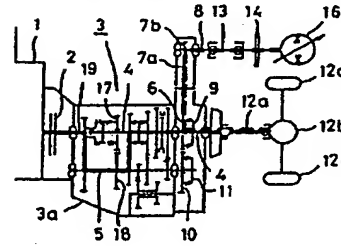
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